

FISH & RICHARDSON P.C.

ORIGINAL
EX PARTE OR LATE FILED

601 Thirteenth Street N.W.
Washington, DC 20005

Telephone
202 783-5070

Facsimile
202 783-2331

Web Site
www.fr.com

Frederick P. Fish
1855-1930

W.K. Richardson
1859-1951

May 25, 2000

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
The Portals TW-A325
445 12th Street, SW
Washington, DC 20554

MAY 26 2000

Re: 1998 Biennial Regulatory Review – Amendment of Part 18 of the
Commission's Rules to Update Regulations for RF Lighting Devices
ET Docket No. 98-42 / *Ex Parte* Communication
Our Ref.: 07330-008001

Dear Ms. Salas:

Pursuant to Section 1.120(a)(2) of the Commission's Rules, and on behalf of Fusion Lighting Corporation, this letter is to report an oral *ex parte* communication in the above-referenced proceeding.

On May 11, 2000, Dan Tessler and Ellen Ranard of Fusion Lighting and I met with Chairman William Kennard, Ari Fitzgerald and John Reed and Geraldine Matise of the Office of Engineering and Technology. The purpose of the meeting was to review and discuss Fusion's concerns set forth in various earlier filings and communications with the staff, and in its petition for Further Notice of Proposed Rulemaking currently pending before the Commission.

Mr. Tessler summarized for Chairman Kennard, the long developmental history of Fusion's 2.45 GHz RF lighting device and identified the destructive interference that is now resulting from the Part 15 spread spectrum rules subsequently developed by the Commission in the 1990s. Mr. Tessler described how Fusion's largest RF lighting markets are now threatened and disappearing wholesale and in advance, for example, as spread spectrum products such as the Metricom Ricochet Service are precluding RF lamps from the street lighting market in 45 cities nationwide.

Mr. Tessler recounted how Fusion invested tens of millions of dollars developing RF lighting in the 2.45 GHz ISM band that was set aside by international treaty for non-communications applications. Using the low cost magnetron currently in service in 200 million microwave ovens worldwide, Fusion was able to produce a revolutionary lighting technology heralded by the Department of Energy as one of the most significant developments in lighting since the incandescent bulb [and is now enshrined next to Edison's lamp in the Smithsonian Institution's new retrospective exhibit on the history of electronic lighting]. During the spread spectrum rulemakings in the 1990's Fusion repeatedly warned the Commission of widespread interference from RF lighting if the 2.45 GHz ISM band was opened to unlicensed

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device usage. Mr. Tessler described how these warnings were underscored 18 months ago when a consortium of manufacturers calling themselves the Part 15 Interests began lobbying the Commission's staff to impose limits on Fusion's RF lighting devices. In their own words, the Part 15 spread spectrum devices "cannot tolerate" RF lighting despite the longstanding Commission rule and treaty obligations that require them to do so. At the request of the Office on Engineering and Technology, Fusion and the Part 15 Interests spent 10 months exchanging technical information and data which focused on how to reduce or relocate RF lighting emissions; no discussions were entertained by the Part 15 Interests on how to "harden" spread spectrum devices against ISM emissions. Based on a record in excess of a thousand pages in Docket 98-42, Mr. Tessler stated that Fusion and Part 15 Interests are in full agreement that: (1) RF lighting and spread spectrum devices are ubiquitous, "always on" technologies intended to be operated in the same environments; (2) such technologies are fundamentally spectrum incompatible and cannot co-exist within 300 yards to one-half mile of each other; (3) unless one or the other technologies relocates to another band or is redesigned, destructive interference to spread spectrum users is certain to occur on a significant scale; and (4) neither technology will relocate or be redesigned unless the Commission compels it.

Mr. Tessler expressed his company's firm belief that in the face of such foreseeable, widespread interference to the public the Commission is legally obligated to manage the spectrum to ensure that Part 15 devices are, in fact, capable of accepting interference from senior spectrum users as required by Commission rules. "Accepting interference" means more than just relegating Part 15 devices to the lowest possible rung on any spectrum ladder; it also means that these devices must not knowingly be designed and distributed in a manner that, if successful, nullifies the spectrum rights of senior users and substitutes the sheer market power of purveyors of unlicensed devices. Allowing the marketplace to choose which technology it prefers, an approach advocated by the Part 15 Interests, is unacceptable spectrum policy if it (i) permits junior spectrum users with superior market power to drive lawful senior users out of their band by saturating markets in advance, (ii) permits one consumer or group of consumers to negate the spectrum choices of other consumers, as will be the rule with devices that interfere at distances of 300 meters to a half-mile; (iii) results in widespread interference to the public; or (iv) violates the letter and spirit of treaty obligations of the United States and longstanding FCC rules and dicta. Mr. Tessler characterized the "marketplace solution" as placing the consumer unfairly in the middle of a dispute between spectrum users, which should never be tolerated by the Commission and certainly not with the effect, as in this instance of transferring effective control of extraordinarily valuable spectrum to the world's richest companies, at no cost and without competition.

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Finally, Mr. Tessler enumerated four steps, which he asked the Chairman carefully to consider:

- (1) relocate spread spectrum devices outside the 2.45 GHz ISM band;
- (2) prohibit the certification and distribution of spread spectrum devices, which cannot operate at maximum throughput in close physical proximity to Fusion's RF lighting;
- (3) in conjunction with (2), initiate a rule making to develop technical standards that will allow spread spectrum to operate at maximum throughput in close physical proximity to Fusion's RF lighting;
- (4) support the development by Fusion of alternative RF lighting technology that eliminates magnetrons and compel Part 15 spread spectrum device makers to provide the necessary incentives and bear the costs for Fusion to eliminate magnetrons and to accept limitations on RF lighting emissions that would eliminate significant interference with spread spectrum devices at 2.45 GHz.

After discussing each of these alternatives, Chairman Kennard suggested that Fusion continue to work with the Commission's senior staff on point 4.

Very truly yours,



Terry G. Mahn

Enclosure

cc: Service List

SERVICE LIST

Chairman William E. Kennard
Federal Communications Commission
445-12th Street, S.W.
Room 8-B201
Washington, DC 20554

Mr. Ari Fitzgerald
Office of Chairman Kennard
Federal Communications Commission
445-12th Street, S.W.
Room 8-B201
Washington, DC 20554

Commissioner Susan Ness
Federal Communications Commission
445-12th Street, S.W.
Room 8-B115
Washington, DC 20554

Mr. Daniel Conners
Office of Commissioner Ness
Federal Communications Commission
445-12th Street, S.W.
Room 8-B115
Washington, DC 20554

Commissioner Harold Furchgott-Roth
Federal Communications Commission
445-12th Street, S.W.
Room 8-A302
Washington, DC 20554

Mr. Paul Misener
Office of Commissioner Furchgott-Roth
Federal Communications Commission
445-12th Street, S.W.
Room 8-A302
Washington, DC 20554

Commissioner Michael K. Powell
Federal Communications Commission
445-12th Street, S.W.
Room 8-A204
Washington, DC 20554

FISH & RICHARDSON P.C.

Mr. Peter Tenhula
Office of Commissioner Powell
Federal Communications Commission
445-12th Street, S.W.
Room 8-A204
Washington, DC 20554

Commissioner Gloria Tristani
Federal Communications Commission
445-12th Street, S.W.
Room 8-C301
Washington, DC 20554

Ms. Karen Gulick
Office of Commissioner Tristani
Federal Communications Commission
445-12th Street, S.W.
Room 8-C301
Washington, DC 20554

Mr. Julius P. Knapp
Chief, Policy and Rules Division
Office of Engineering and Technology
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Ms. Karen Rackley
Chief, Technical Rules Branch
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, S.W.
Room 7-A161
Washington, D.C. 20554

Mr. John A. Reed
Senior Engineer, Technical Rules Branch
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, S.W.
Room 7-A140
Washington, D.C. 20554

David C. Jatlow, Esq.
Young & Jatlow
1150 Connecticut Avenue, NW
Suite 420
Washington, DC 20036

FISH & RICHARDSON P.C.

Larry Solomon, Esq.
Shook, Hardy & Bacon L.L.P.
Hamilton Square
600 14th Street, NW
Suite 800
Washington, DC 20005-2004

Mitchell Lazarus, Esq.
Fletcher Heald & Hildreth, P.L.C.
1300 North 17th Street
11th Floor
Rosslyn, VA 22209-3801

Ellen Ranard, Esq.
Fusion Lighting, Inc.
7524 Standish Place
Rockville, MD 20855

Daniel Tessler, Chairman
Fusion Lighting, Inc.
7524 Standish Place
Rockville, MD 20855